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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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			EXAMINER
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ART UNIT	PAPER NUMBER
2143	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

		Application No.	Applicant(s)
Office Action Summary		09/882,508	LUBY ET AL.
		Examiner	Art Unit
		David E. England	2143

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 June 2001*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-94* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-94* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 January 2002* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some *   c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date *3/4/02,7/16/02*.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

DETAILED ACTION

1. Claims 1 – 94 are presented for examination.

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "N outputs symbols" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "removing from the list the client after a period of time from when the message to add the client to the list was received" of claim 13 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "if and acknowledgment message corresponding to a packet that included one of the plurality of packet payloads is not received form one of the clients, transmitting to the client another packet including another packet payload, wherein the another packet payload includes data different from the data included in the packet payload that the client did not receive" of claim 15 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

4.   The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "the plurality of clients and the second plurality of clients" of claim 27 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

5.   The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "the first subset and the second subset of the content" of claim 28 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

6.   The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "a second list of the second plurality of clients" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

7.   The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "adding the client to the second list" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

8.   The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "J first output symbols", "K second output symbols", "N1 output symbols", "J1 first output symbols", "possible first output symbols is J", "K1 output symbols" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

        Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

9.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10.   Claims 1 – 37, 56 – 64, 75 – 86, 87 – 92 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

11.   Claim 1 recites the limitation "the state". There is insufficient antecedent basis for this limitation in the claim.

12.   Claim 16 recites the limitation "the sequence number". There is insufficient antecedent basis for this limitation in the claim.

13.   Claim 28 recites the limitation "the first subset of the content and the second subset of content". There is insufficient antecedent basis for this limitation in the claim.

14.   As per claims 56 and 64, the limitations of "K" and "J", seem to come from the same integer "N", (i.e., any set of N output symbols, from any J first output symbols, from any K second output symbols), but it is not specifically clear nor is there any passage from the specification that would specifically stated this assumption. To further aid in the prosecution of this case, Applicant must confirm or deny this with an explanation form the specification.

15.   Claims 75 and 78, 87 and 90 are similar in nature to the above rejection to claims 56 and 64, wherein the Applicant does not state if the first and second symbols are derived from "N" or "N1".

16.   All other claims not specifically discussed in detail are rejected for there dependency to

the above claims.

Claim Rejections - 35 USC § 102

17.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

18.   Claims 1 – 10, 15, 16, 26 – 28, 38 and 42 are rejected under 35 U.S.C. 102(b) as being

anticipated by Schuster et al. U.S. Patent No. 5870412 (hereinafter Schuster).

19.   Referencing claim 1, as closely interpreted by the Examiner, Schuster teaches a method

of serving content to multiple clients via a network, the method comprising:

20.   maintaining independent sessions with each of a plurality of clients, wherein the number

of clients in the plurality of clients can vary over time, and wherein the start of each session and

the end of each session can be independent of the start and end of other sessions, (e.g. col. 6,

lines 31 – 48, *"... the present invention may equally extend to separate and independent*

transmission of packets ... ";

21.   receiving a stream of packet payloads, each packet payload of the stream of packet

payloads including data generated from the content, wherein each packet payload in at least a

subset of the stream of packet payloads includes a different set of data, (e.g. col. 3, lines 6 – 14);

22.   transmitting each packet payload in the stream of packet payloads to each client of the

plurality of clients in corresponding packets, wherein the packet payload transmitted to a client at

any particular time is independent of the state of the corresponding session, (e.g. col. 1, lines 44

– 55, *"TCP protocol, acknowledgement"* & col. 6, lines 31 – 48).

23.   Referencing claim 2, as closely interpreted by the Examiner, Schuster teaches the content

comprises an ordered set of input symbols, wherein each packet payload of the stream of packet

payloads includes at least one output symbol, wherein output symbols are generated from input

symbols, and wherein a client can regenerate the ordered set of input symbols to a desired

accuracy from the output symbols included in a set of packet payloads received by the client,

(e.g. col. 5, line 51 – col. 6, line 15).

24.   Referencing claim 3, as closely interpreted by the Examiner, Schuster teaches the set of

packet payloads received by the client can be received via a plurality of distinct sessions, (e.g.

col. 1, lines 44 – 55, *"TCP protocol, acknowledgement"* & col. 6, lines 31 – 48).

25.   Referencing claim 4, as closely interpreted by the Examiner, Schuster teaches the output

symbols are generated from input symbols using a FEC code, (e.g. col. 3, lines 49 – 65).

26.   Referencing claim 5, as closely interpreted by the Examiner, Schuster teaches the output

symbols are generated from input symbols such that the ordered set of input symbols can be

regenerated using any set of N output symbols, wherein N is ml integer greater than 1 and less

than the number of possible output symbols, (e.g. col. 7, lines 39 – 53, *"sequence number"*).

27.   Referencing claim 6, as closely interpreted by the Examiner, Schuster teaches the output

symbols are input symbols, (e.g. col. 7, lines 39 – 53, *"sequence number"*).

28.   Referencing claim 7, as closely interpreted by the Examiner, Schuster teaches the packets

are unicast packets, (e.g. col. 1, lines 44 – 55, *"TCP protocol, acknowledgement" The receiving*

end is then typically configured to acknowledge receipt of packets and expressly request the

sending end to re-transmit any lost packets." **Applicant is reminded that IP, TCP and UDP**

are unicast protocols.).

29.   Referencing claim 8, as closely interpreted by the Examiner, Schuster teaches the unicast

packets are UDP unicast packets, (e.g. col. 1, lines 44 – 55, *"TCP protocol, acknowledgement"*

The receiving end is then typically configured to acknowledge receipt of packets and expressly

request the sending end to re-transmit any lost packets." **Applicant is reminded that IP, TCP**

and UDP are unicast protocols.).

30.   Referencing claim 9, as closely interpreted by the Examiner, Schuster teaches the unicast

packets are TCP packets, (e.g. col. 1, lines 44 – 55, *"TCP protocol, acknowledgement" The*

receiving end is then typically configured to acknowledge receipt of packets and expressly request the sending end to re-transmit any lost packets. " **Applicant is reminded that IP, TCP and UDP are unicast protocols.).**

31.	Referencing claim 10, as closely interpreted by the Examiner, Schuster teaches maintaining a list of the plurality of clients, (e.g. col. 4, lines 1 – 9, *"router"*).

32.	Referencing claim 15, as closely interpreted by the Examiner, Schuster teaches receiving an acknowledgment message from each client of the plurality of clients for at least some of the packets received by the client, (e.g. col. 1, lines 44 – 55, *"TCP protocol, acknowledgment"* & col. 3, lines 23 – 33);

33.	if an acknowledgment message corresponding to a packet that included one of the plurality of packet payloads is not received from one of the clients, transmitting to the client another packet including another packet payload, wherein the another packet payload includes data different from the data included in the packet payload that the client did not receive, (e.g. col. 1, lines 44 – 55, *"TCP protocol, acknowledgment"* & col. 3, lines 23 – 33).

34.	Referencing claim 16, as closely interpreted by the Examiner, Schuster teaches the acknowledgment messages are TCP acknowledgment messages, wherein the lost packet and the another packet are TCP packets, (e.g. col. 1, line 56 – col. 2, line 3, *"... protocol such as TCP introduces delay into packet transmission, due to its need to confirm successful transmission and to request retransmission of these lost packets. "*); and

35.   wherein transmitting to the client another packet includes setting the sequence number of

the another packet to the sequence number of the lost packet, (e.g. col. 7, lines 39 – 53).

36.   Claims 26 – 28, 38 and 42 are rejected for similar reasons as stated above.

Claim Rejections - 35 USC § 103

37.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

38.   Claims 11, 12, 30, 31, 37, 39 – 41, 43 – 82 and 87 – 94 are rejected under 35 U.S.C.

103(a) as being unpatentable over Schuster (5870412) in view of Samuel et al. (6018766)

(hereinafter Samuel).

39.   Referencing claim 11, as closely interpreted by the Examiner, Schuster does not

specifically teach receiving, via the network, a message from a client not included in the list of

the plurality of clients, requesting to be added to the list; and

40.   adding the client to the list.

41.   Samuel teaches receiving, via the network, a message from a client not included in the

list of the plurality of clients, requesting to be added to the list, (e.g. col. 17, line 49 – col. 18,

line 3 & col. 18, lines 28 – 50); and

42.   adding the client to the list, (e.g. col. 17, line 49 – col. 18, line 3 & col. 18, lines 28 – 50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made

to combine Samuel with Schuster because it would be more efficient for a system to have the

ability to add or remove clients from the system so to update the list on changes in the network

with client being added to a network or taken off. Furthermore, this will save storage space on

the device that has the list of clients.

43.   Referencing claim 12, as closely interpreted by the Examiner, Schuster does not

specifically teach receiving, via the network, a message from a client included in the list

requesting to be removed from the list; and

44.   removing the client from the list.

45.   Samuel teaches receiving, via the network, a message from a client included in the list

requesting to be removed from the list, (e.g. col. 18, line 51 – col. 19, line 9); and

46.   removing the client from the list, (e.g. col. 18, line 51 – col. 19, line 9). It would have

been obvious to one of ordinary skill in the art at the time the invention was made to combine

Samuel with Schuster because of similar reasons stated above.

47.   Referencing claim 30, as closely interpreted by the Examiner, Schuster does not

specifically teach maintaining a first list of the first plurality of clients; and

48.   maintaining a second list of the second plurality of clients.

49.   Samuel teaches maintaining a first list of the first plurality of clients, (e.g. col. 16, lines

55 – 62); and

50.   maintaining a second list of the second plurality of clients, (e.g. col. 16, lines 55 – 62). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Samuel with Schuster because dividing users among groups could aid in sending specific information to only those groups of interest while leaving other groups to only receive information pertaining to them in a router.

51.   Referencing claim 31, as closely interpreted by the Examiner, Schuster does not specifically teach receiving, via the network, a connect message from one of the multiple clients, the connect message specifying to which of the first and second channels to connect;

52.   if the message specifies the first channel, adding the client to the first list; and if the message specifies the second channel, adding the client to the second list.

53.   Samuel teaches receiving, via the network, a connect message from one of the multiple clients, the connect message specifying to which of the first and second channels to connect;

54.   if the message specifies the first channel, adding the client to the first list; and if the message specifies the second channel, adding the client to the second list, (e.g. col. 4, line 50 – col. 5, line 15, *"These lists are updated when hosts join or leave multicast groups."*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Samuel with Schuster because of similar reasons stated above.

55.   Referencing claim 37, as closely interpreted by the Examiner, Schuster does not specifically teach maintaining a multicast session, wherein a plurality of multicast clients can

join the multicast session, wherein the number of the plurality of multicast clients joined to the

multicast session can vary over time;

56.   transmitting, via the multicast network, each packet payload in the stream of packet

payloads to each multicast client of the plurality of multicast clients in corresponding multicast

packets.

57.   Samuel teaches maintaining a multicast session, wherein a plurality of multicast clients

can join the multicast session, wherein the number of the plurality of multicast clients joined to

the multicast session can vary over time, (e.g. col. 4, lines 32 – 49);

58.   transmitting, via the multicast network, each packet payload in the stream of packet

payloads to each multicast client of the plurality of multicast clients in corresponding multicast

packets, (e.g. col. 4, lines 32 – 49). It would have been obvious to one of ordinary skill in the art

at the time the invention was made to combine Samuel with Schuster because of similar reasons

stated above.

59.   Claims 39 – 41, 43 – 82 and 87 – 94 are rejected for similar reasons as stated above.

60.   Claims 13, 17 – 22, 32 – 36, 83 – 86 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Schuster (5870412) in view of Samuel (6018766) in further view of Lim et al.

(6434619) (hereinafter Lim).

61.   Referencing claim 13, as closely interpreted by the Examiner, Schuster and Samuel teach

removing from the list the client but they do not specifically after a period of time.

62.   Lim teaches removing users after a period of time, (e.g. col. 12, lines 14 – 35). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Lim with the combine system of Schuster and Samuel because if the user is inactive for an extended period of time, resources are not in use and are wasted when they could be used on a client that is actively utilizing the network. Therefore, removing a client after a period of time of inactivity would free up resources that could be used on active clients.

63.   Claims 17 – 22, 32 – 36, 83 – 86 are rejected for similar reasons as stated above.

64.   Claims 14 and 23 – 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schuster (5870412) in view of Samuel (6018766) in further view of Merriman et al. (5948061) (hereinafter Merriman).

65.   Referencing claim 14, as closely interpreted by the Examiner, Schuster and Samuel do not specifically teach transmitting to the client not included in the list of the plurality of clients a cookie, and wherein adding the client to the list includes adding the client to the list, only if the message received from the client includes the cookie.

66.   Merriman teaches transmitting to the client not included in the list of the plurality of clients a cookie, and wherein adding the client to the list includes adding the client to the list, only if the message received from the client includes the cookie, (e.g. col. 5, lines 10 – 33). It would have been obvious to one of ordinary skill in the art at the time the invention was made to

combine Merriman with the combine system of Schuster and Samuel because the cookie would

aid in the user being recognized by the system as recurring member of the network.

67.   Claims 23 – 25 are rejected for similar reasons as stated above.

Conclusion

68.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

69.   a.   Munger et al. U.S. Patent No. 6502135 discloses Agile network protocol for

secure communications with assured system availability.

70.   b.   Boucher et al. U.S. Patent No. 6434620 discloses TCP/IP offload network

interface device.

71.   c.   Pasternak et al. U.S. Patent No. 5936949 discloses Wireless ATM metropolitan

area network.

72.   d.   Luby U.S. Patent No. 6320520 discloses Information additive group code

generator and decoder for communications systems.

73.   e.   Borella et al. U.S. Patent No. 6434606 discloses System for real time

communication buffer management.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to David E. England whose telephone number is 571-272-3912.

The examiner can normally be reached on Mon-Thur, 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, David A. Wiley can be reached on 571-272-3923. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

David E. England
Examiner
Art Unit 2143

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